

I need not say that I was unacquainted with this passage when I received the communication from Mr. Gosse, to whom, I believe, in my reply I mentioned the likelihood of his animal being identical with that discovered by Mr. Cocks and Mr. Alder.

In the paper referred to are many notices of new marine animals, including several zoophytes, to which the attention of the explorers of our seas might well be directed.

The fact of the occurrence of the *Bryarea Scolopendra* in the British seas was first made known by myself, in a communication to the Wernerian Society in 1840; and at the Meeting of the British Association in 1849, when Dr. Ball gave an account of its discovery in Ireland, much information was communicated by several naturalists present respecting this very beautiful and still anomalous animal.

V.—*Description and Illustrations of new species of Verrucaria and Sagedia found about Torquay, Devonshire.* By RICHARD DEAKIN, M.D.

[With Four Plates.]

VERRUCARIA, PERS.

*Apothecia* globose, enclosed within or protruded above the thallus. *Nucleus* gelatinous, enveloped in a tunic, and entirely or partly covered with a black or brownish *perithecium* (not contracted into a neck), perforated with a minute or dilated pore, and often papillated at the apex. *Sporidia* in asci. *Thallus* horizontal, crustaceous.

*V. neglecta.* (Plate I. fig. 1.)

*Thallus* crustaceous, a dark dull olive-green, warty and uneven, unequally cracked, upon a black substratum, indeterminate; *apothecia* numerous, crowded, black, immersed, conico-hemispherical, with a naked subpapillated apex and large open pore; *perithecium* dimidiate; *nucleus* brown, in a black tunic; *sporidia* small, oblong, single-celled.

*Thallus* in large, spreading, indeterminate patches, of a dark dull olive-green, uneven, warty, and more or less granulated, irregularly cracked, becoming greener and continuous when moistened, here and there showing the black substratum which forms a thin layer beneath the whole, and often forms a margin beyond the edge of the outer coat. When the plant is grown in shady places and not exposed to the sun, it has a much more powdery appearance, is continuous, not cracked, and in this state closely resembles the *V. trachona*, Tayl. *Apothecia* numerous, crowded, black, at first entirely covered by the thallus and hemispherical, becoming more conical and naked at the apex, often

Fig. 1.

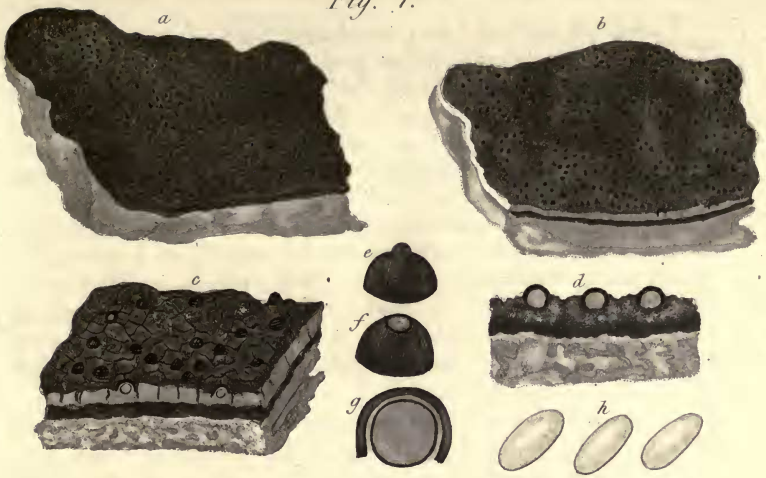


Fig. 2.

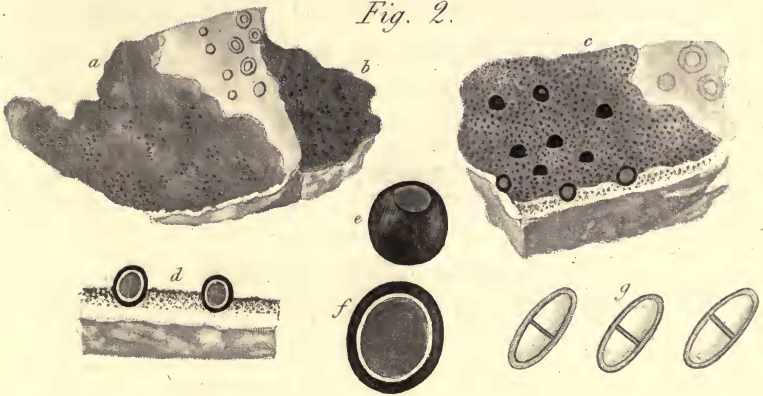


Fig. 3.

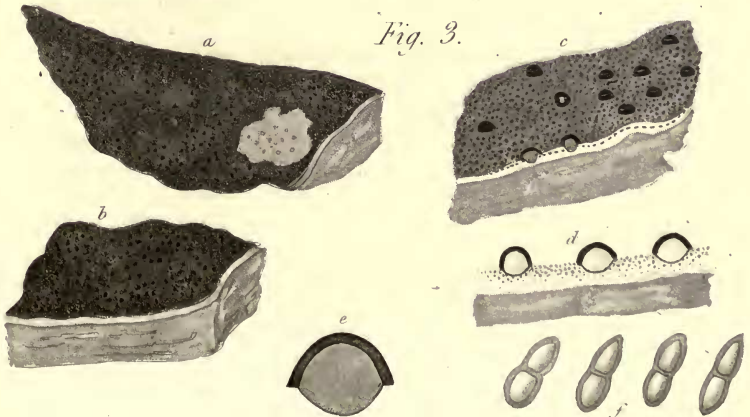




Fig. 4.

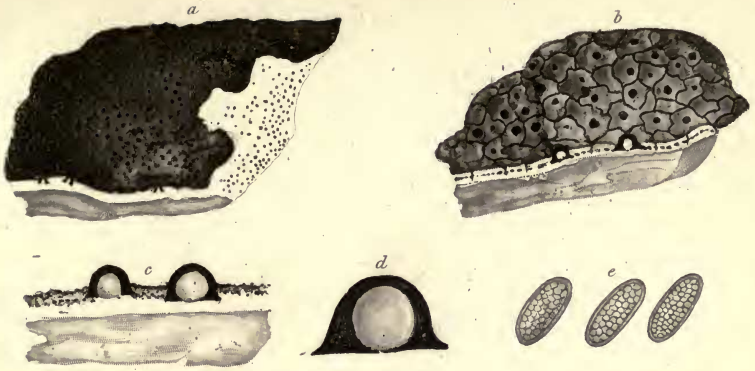


Fig. 5.

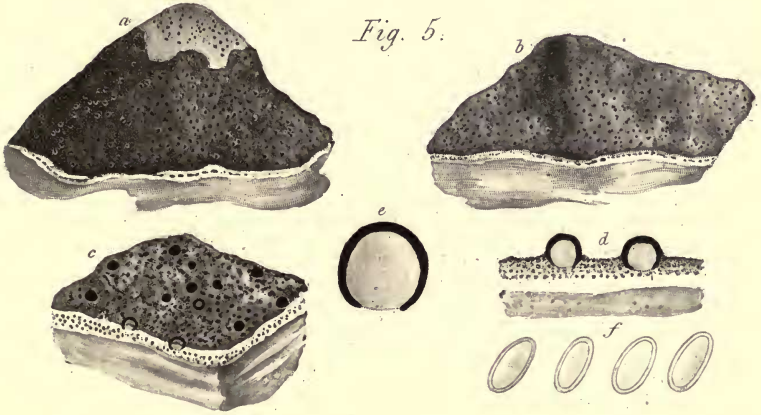


Fig. 6.

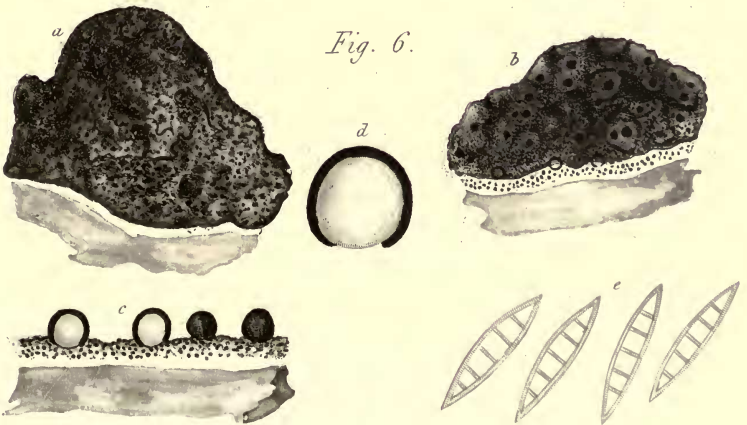




Fig. 7.

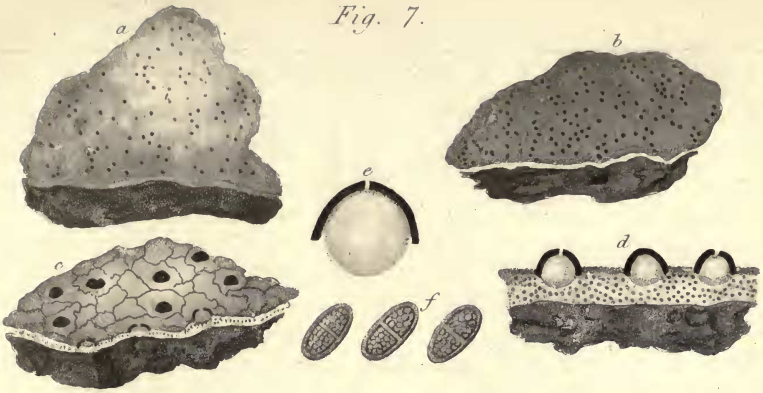


Fig. 8.

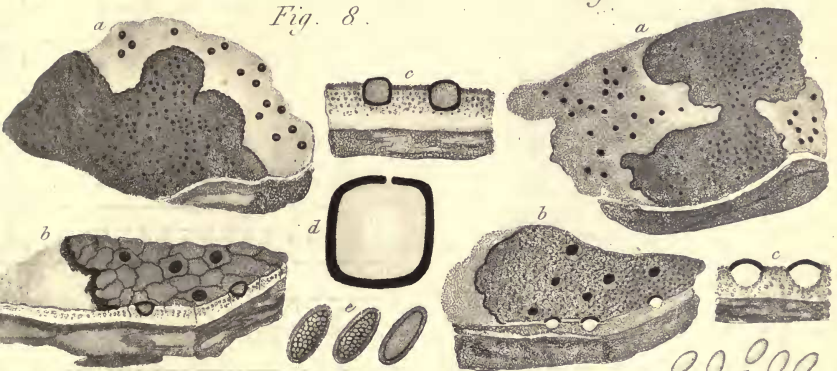


Fig. 9.

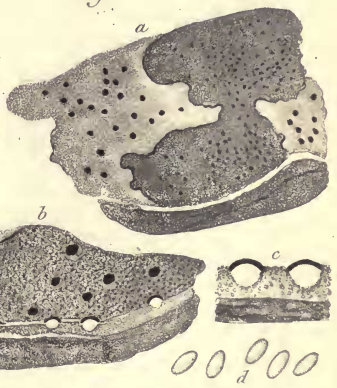
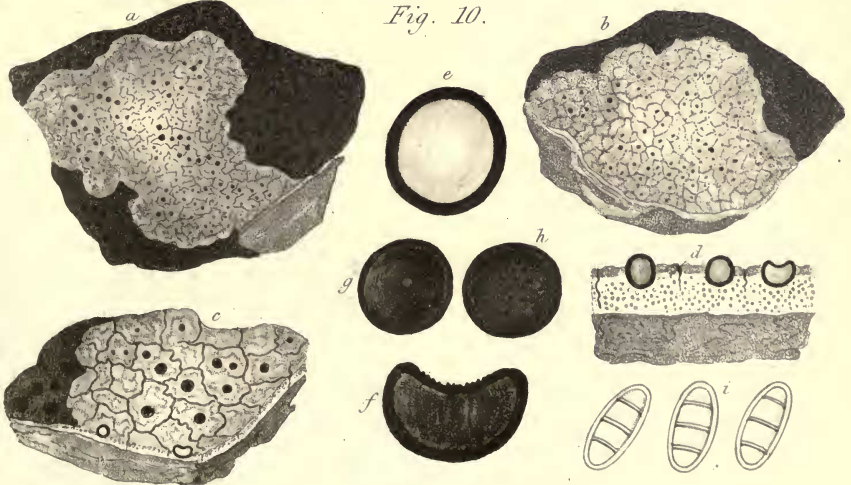


Fig. 10.





with a minute papillated elevation; but as the pore becomes larger and open, this seems to disappear; frequently in exposed parts of the stone, the outer coat of the thallus falls away, leaving the apothecia much more prominent and rough, and attached only to the black substratum. *Perithecium* dimidiate, slightly incurved at the base. *Nucleus* brown, almost black when dry, in a thin black tunic. *Sporidia* in asci eight, small, pale, single-celled, ovate-oblong.

*Hab.* Limestone rocks, Babbicombe near Torquay, Devonshire.

The *Verrucaria trachona* described by Taylor in 'Flora Hibernica,' part 2. p. 93, is not, as is shown by Leighton (British Angiocarpous Lichens, p. 50), the *V. trachona* (Engl. Bot. Suppl.), but an undescribed species; and the *V. trachona* (Engl. Bot. Suppl.), which he supposes to be Acharius's, and like *V. lithina*, Tayl., is a *Pyrenothea*, and named by him *P. lithina*. Both these species are very different from the above, which is at once distinguished by the black substratum to the thallus; and the sporidia are ovate, single-celled, and not of a fusiform shape and four-celled, as is shown in the *V. trachona*, Tayl., by Leighton. From *Pyrenothea lithina* they are readily distinguished by the difference in their generic character.

*V. parva.* (Plate I. fig. 2.)

Thallus crustaceous, thin, ashy-gray, continuous, indeterminate, the surface minutely granulated; apothecia minute, globose, black, prominent; pore small, at length widely umbilicated; perithecium entire; nucleus brown, in a pale tunic; sporidia elliptical, two-celled, colourless.

*Thallus* thin, crustaceous, of a dull ashy-gray colour, becoming of a greenish-brown hue when moistened, spreading in continuous indeterminate patches; the surface, when seen with a magnifying power, rough with minute granular-looking points giving it a powdery appearance; the internal substance white, with green granules thickly scattered amongst it. *Apothecia* very small, numerous, scattered, full, black, globose, half immersed; pore scarcely visible, at length it is widely open and umbilicated, looking like a minute cup. *Perithecium* entire. *Nucleus* brown, in a pale tunic. *Sporidia* in asci eight, elliptical, two-celled, colourless.

*Hab.* Limestone rocks near Torquay, Devonshire.

This little *Verrucaria* may have been overlooked as a variety of *V. rupestris*, but its entire perithecium and two-celled sporidia distinguish it from that species; and its smaller globose apothecia, together with its two-celled sporidia, separate it from *V. murina*, Leight., which has much larger apothecia, and the sporidia are single-celled.



*V. Leightonii*. (Plate I. fig. 3.)

Thallus crustaceous, very thin, continuous, indeterminate, dark brownish-gray, somewhat powdery-looking on the surface; apothecia very small, black, hemispherical; pore minute, at length widely umbilicated; perithecium dimidiate, neither spreading nor incurved at the base; nucleus pale yellow, in a thin black tunic; sporidia ovate, two-celled, contracted at the septa, yellowish-brown.

*Thallus* very thin, continuous, indeterminate or limited, with a pale margin; the surface is even, but when seen through a magnifying power is minutely powdery-looking, with dark points; when dry it is a dull dark gray or mouse-colour, becoming darker and of an olive hue when moistened; beneath the outer coat and generally through the white substratum are scattered green granular bodies. *Apothecia* at first very small, prominent, hemispherical, without any distinct pore; at length the top becomes flattened, sunk, and has then, from the margins being elevated, the appearance of a *Lecidea*; when moistened it becomes more elevated from the swelling of the nucleus, and is roughish with slightly elevated points. *Perithecium* dimidiate, thin, covering half the nucleus, neither spreading nor incurved at the base. *Nucleus* pale yellowish-brown, hyaline when moist, in a thick black tunic. *Sporidia* in asci eight, ovate-oblong, more or less pointed or obtuse at the extremities, two-celled, and generally slightly contracted at the septa, dark yellowish-brown, the margin and septa darker.

*Hab.* Limestone rocks near the sea, Torquay, Devonshire.

This little plant appears to have been overlooked, or may have been mistaken for a species of *Lecidea*, which the apothecia in an old state resemble; but it will be seen from the description and illustration that its structure is that of a true *Verrucaria*; and it is named in compliment to the Rev. W. A. Leighton, the author of the 'British Angiocarpous Lichens,' in which he has pointed out the way to a more accurate knowledge and satisfactory investigation of the structure of Lichens and their distinctive specific characters.

*V. ovata*. (Plate II. fig. 4.)

Thallus crustaceous, dark dull olive-green, thin, terminated by a narrow black line cracked into angular areolæ; apothecia black, small, scattered, immersed, hemispherical, the apex becoming naked, depressed; pore minute; perithecium dimidiate, thick, incurved at the base; nucleus black, in a thin black tunic; sporidia ovate, single-celled, pale yellow, granulated.

*Thallus* thin, in irregular-shaped patches, terminated when growing with other species, which is generally the case, in a

narrow, black, often indistinct margin; the surface a dull dark brownish-olive, even and smooth, more or less cracked into angular areolæ, which are not visible when the plant is moistened; beneath the outer coat is a green granular layer upon a white substratum. *Apothecia* immersed in the thallus, which swells about its base; the apex at length becomes naked, and more or less prominent, sometimes conical, but afterwards depressed or flattened; pore minute. *Perithecium* thick, clumsy-looking, and often so swollen and spreading at the base as to appear to entirely envelope the nucleus, but upon careful examination it is found wanting at the base, and the nucleus only separated from the stone by a thin black tunic. *Nucleus* black, becoming white and hyaline when moistened. *Sporidia* in asci eight, ovate, single-celled, pale yellow, granulated or clouded from the contained sporules.

*Hab.* Calcareous rocks near the sea, Torquay, Devonshire.

*V. fugax.* (Plate II. fig. 5.)

Thallus crustaceous, very thin, continuous or scattered, minutely scaly, fugacious, greenish-olive; apothecia minute, scattered, hemispherical, glossy black; pore minute, becoming umbilicated, large and open; perithecium dimidiate, incurved at the base; nucleus pale brown, in a pale tunic; sporidia ovate, single-celled, pale yellow.

*Thallus* crustaceous, very thin, spreading in indeterminate patches, continuous, or sometimes here and there cracked into minute areolæ, apparently soon falling away, leaving a few scattered scales especially about the apothecia, and then pulverulent; it is of a dull brownish-gray when dry, olive-green when moist; beneath the outer coat is a green granular layer upon a white substratum. *Apothecia* numerous, scattered, minute, hemispherical, prominent, glossy black, the base only immersed in the thallus; pore minute, becoming umbilicated, at length open, the top falling away, leaving the remains, a minute ring. *Perithecium* dimidiate, incurved at the base, and enveloping the nucleus except a small space at the bottom. *Nucleus* pale brown, white and hyaline when moist; tunic pale. *Sporidia* in asci eight, ovate, pale yellow, single-celled, often clouded from the contained sporules.

*Hab.* Calcareous rocks, Torquay, Devonshire.

*V. perminuta.* (Plate II. fig. 6.)

Thallus dark olive-green, thin, indeterminate, continuous, uneven, rugose and warty; apothecia scattered or crowded, minute, prominent, brownish-black, globoso-hemispherical; pore minute; perithecium dimidiate, incurved at the base; nucleus